ANNALES HISTORICO-NATURALES MUSEI NATIONALIS HUNGARICI
Tomus 81. Budapest, 1990 p. 115–123.

Contributions to the Noctuidae fauna of Turkey (Lepidoptera)

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L. RONKAY, GY. FÁBIÁN, B. HERCZIG & CS. SZABÓKY: Contributions to the Noctuidae fauna of Turkey (Lepidoptera). – *Annls hist.-nat. Mus. natn. hung.* 1989, **81**: 115–123.

Abstract – Records of 101 Noctuidae species from Turkey with the description of a new species, *Polymixis paravarga* sp. n. are given. With 5 figures and 1 photoplate.

INTRODUCTION

The exploration of the Lepidoptera fauna of Turkey has become more intensive in the last twenty years. Huge materials were collected and the results were published in numerous papers. It was pointed out that our previous knowledge about the Noctuidae fauna of Turkey was very limited: a series of new taxa were discovered and more than one hundred species have since been reported as being new to the fauna of Turkey.

In 1988 two groups of Hungarian lepidopterists went on collecting trips to C and E Turkey. The first expedition was carried out in July-August, the second one in the first part of October. The material of the former is still under elaboration, present paper contains the data on the species collected in the latter expedition.

The weather conditions were badly influenced by an extensive cold front, passaged with strong wind, rain or snow and the temperature was around zero nearly every night. Consequently, the collected material is not so large, only some 3.000 specimens. The overwhelming majority of it consists of noctuids and the composition of the fauna is really interesting. The radical changes in the weather conditions resulted in nearly complete extinction of the early autumnal Noctuidae fauna, which can be characterized by the dominance of Noctuinae genera, e.g. *Euxoa, Agrotis, Chersotis,* etc. The dominant groups in our material are various genera of the subfamily Cuculliinae, the migrant noctuids and some special autumnal genera as *Oxytrypia* or *Pachyagrotis*: the majority of the specimens had freshly emerged.

Collecting localitites

Turkey, Prov. Ankara, Çamlidere, 1500 m, 32°25' E, 40°26' N, 8.X.1988, leg. FÁBIÁN, HERCZIG, RONKAY et SZABÓKY;

Turkey, Prov. Ankara, Lake Tuz Gölü, 9 km N Sereflikochisar, 1000 m, 33°32'E, 38°58'N, 9.X.1988, leg. FÁBIÁN, HERCZIG, RONKAY et SZABÓKY;

Turkey, Prov. Kayseri, 20 km W Pinarbashi, 1250 m, 36°09'E, 38°36'N, 10.X.1988, leg. FÁBIÁN, HERCZIG, RONKAY et SZABÓKY;

Turkey, Prov. Sivas, Osmandede, 1300 m, 37°01'E, 38°40'N, 11.X.1988, leg. FÁBIÁN, HERCZIG, RONKAY et SZABÓKY;

Turkey, Prov. Sivas, Gürün, 1500 m, 37°12'E, 38°45'N, 12-13.X.1988, leg. FÁBIÁN, HERCZIG, RONKAY et SZABÓKY;

Turkey, Prov. Ankara, Dutözü Köyü, 1300 m, 32°30'E, 40°13'N, 14.X.1988, leg. FÁBIÁN, HERCZIG, RONKAY et SZABÓKY.

SYSTEMATIC PART

Noctuinae

Agrotis segetum ([DENIS et SCHIFFERMÜLLER], 1775) – Tuz Gölü, Gürün, Dutözü Köyü

Agrotis ipsilon (HUFNAGEL, 1766) – Gürün

Agrotis syricola HACKER, 1987 – Tuz Gölü

Agrotis trux (HÜBNER, [1823-1824]) – Dutözü Köyü

Agrotis obesa (BOISDUVAL, 1829) – Tuz Gölü, Dutözü Köyü

Euxoa agricola (BOISDUVAL, 1829) – Tuz Gölü, Gürün

Euxoa distinguenda akschehirensis CORTI, 1932 – Dutözü Köyü

Euxoa segnilis (DUPONCHEL, 1836) – Çamlidere, Dutözü Köyü

Euxoa sp. – Dutözü Köyü. – A worn specimen from the *tritici* group.

Euxoa glabella (WAGNER, 1926) – Dutözü Köyü

Euxoa temera (HÜBNER, [1803-1808] – Çamlidere, Tuz Gölü, Gürün, Dutözü Köyü. – The only species of the genus which was relatively frequent during this collecting period.

Euxoa cos (HÜBNER, [1823-1824]) – Gürün

Pachyagrotis ankarensis (REBEL, 1931) – Gürün, Dutözü Köyü. – The material collected in the two mentioned localities consists of three distinct species which can be separated by the features of the genitalia of both sexes. One of them is identical with the type of *ankarensis* shown on the photo of BOURSIN (1953a), the other two differ in some characteristics from the other known taxa. For the identification of the species, a revision of the genus is necessary.

Pachyagrotis sp. 1. – Gürün

Pachyagrotis sp. 2. – Dutözü Köyü

Dichagyris amoena (STAUDINGER, 1892) – Tuz Gölü, 18 specimens; Gürün, 16 specimens

Dichagyris (Yigoga) eureteocles (BOURSIN, 1940) – Tuz Gölü, 11 specimens

Dichagyris (Yigoga) flammatra deleta (KOLLAR, 1849) – Tuz Gölü, Gürün

Rhyacia simulans (HUFNAGEL, 1766) – Dutözü Köyü

Rhyacia lucipeta ([DENIS et SCHIFFERMÜLLER], 1775) – Gürün

Standfussiana nyctymera osmana (WAGNER, 1929) – Çamlidere, Dutözü Köyü

Standfussiana lucernea illyria (REBEL et ZERNY, 1931) – Dutözü Köyü

Chersotis gratissima (CORTI, 1932) – Çamlidere, four males

Chersotis semna (PÜNGELER, 1906) – Dutözü Köyü, a single male

Chersotis margaritacea (DE VILLERS, 1789) – Çamlidere, Dutözü Köyü

Noctua orbona (HUFNAGEL, 1766) – Çamlidere, Tuz Gölü, Gürün, Dutözü Köyü

Noctua pronuba LINNAEUS, 1758 – Gürün

Peridroma saucia (HÜBNER, [1802-1808]) – Pinarbashi, Gürün

Eugnorisma (Metagnorisma) pontica (STAUDINGER, 1891) – Çamlidere, Dutözü Köyü

Eugnorisma (Eugnorisma) buraki KOÇAK, 1983 (caerulea WAGNER, 1932) – Çamlidere, Gürün, Dutözü Köyü

Eugnorisma (Eugnorisma) enargiaris (DRAUDT, 1936) – Gürün, 7 specimens. – The short series consists of small and very light, slightly transparent and nearly entirely patternless specimens.

Xestia trifida (FISCHER VON WALDHEIM, 1823-1824) – Tuz Gölü, 46 males, 7 females. – An interesting autumn species with bicentric distribution. It has only few data from Turkey and was known as a rare species. The majority of the specimens – both males and females – came to the light in the late evening and at midnight, running on the rocky surface in the strong wind.

Xestia c-nigrum (LINNAEUS, 1758) – Gürün

Mesogona acetosellae ([DENIS et SCHIFFERMÜLLER], 1775) ssp. – Çamlidere, Pinarbashi, Dutözü Köyü

Heliothinae

Heliothis (Helicoverpa) armigera (HÜBNER, 1803-1808]) – Gürün

Oxytrypia stephania SUTTON, 1964 (Plate I: 4) – Gürün, 5 males, 1 female. – A recently discovered species, only the males are known so far (SUTTON 1964, MILYANOVSKY 1973, HACKER et al. 1988). The distribution of the species is less known, it was recorded from the Elburs Mts.; from the southern Caucasus (USSR, Azerbaijan, Armenia) and from the vicinity of Gürün. The specimens came to the light in early evening, their flight is significantly slower than that of *O. orbiculosa*. The female laid some one hundred eggs on the leaves of the probable foodplant, *Iris schachti* (det. GOZMÁNY) and on the walls of the bottle. The eggs have not emerged until the second half of November. The female genitalia are illustrated for the first time, on Fig. 1.

Oxytrypia orbiculosa noctivolans PINKER, 1980 stat. n.

Gürün, 40 males

The C Anatolian populations of *orbiculosa* were described as a distinct species. The morphological and ethological differences between *orbiculosa* and *noctivolans*, mentioned in the description of *noctivolans*, are only partly existing. The specimens collected by light in various places of its distribution and the genital features have a relatively big variability displaying wide overlap between those of *orbiculosa* and *noctivolans*. The lighter colouration, being characteristic to *noctivolans* can also be found in the specimens from Armenia and Azerbaijan. These populations can easily be separated from the darker ones of *orbiculosa* occurring in the Balkans, Ukraina and the S Ural, consequently *noctivolans* is to be considered as a good subspecies of *orbiculosa*. Its distribution, very probably, is not restricted to Asia Minor and the Caucasus, but, similarly to that of *Diachrysia chrysitis generosa* (STAUDINGER, 1900), expands to N Iran and Afghanistan.

Hadeninae

Tholera hilaris (STAUDINGER, 1901) – Çamlidere, Tuz Gölü, Dutözü Köyü

Mythimna (Aletia) vitellina (HÜBNER, [1803-1808]) – Çamlidere, Tuz Gölü, Gürün, Dutözü Köyü

Mythimna (Aletia) l-album (LINNAEUS, 1767) – Tuz Gölü, Pinarbashi, Gürün, Dutözü Köyü

Mythimna (Pseudaletia) unipuncta (HAWORTH, 1809) – Gürün

Leucania putrescens (HÜBNER, [1823-1824]) – Tuz Gölü

Acantholeucania loreyi (DUPONCHEL, 1827) – Gürün

Cuculliinae

Episema tersa ([DENIS et SCHIFFERMÜLLER], 1775) – Çamlidere

Episema amasina (HAMPSON, 1906) – Tuz Gölü, 1 male; Gürün, 1 male

Episema didymogramma (BOURSIN, 1963) – Gürün, a single male

Episema lederi CHRISTOPH, 1885 – Çamlidere, Tuz Gölü, Gürün, Dutözü Köyü

Episema korsakovi (CHRISTOPH, 1885) – Çamlidere, Tuz Gölü, Gürün, Dutözü Köyü

Cleoceris scoriacea (ESPER, 1789) ssp. – Çamlidere

Guselderia lutea HACKER, KUHNA et GROSS, 1986 (Plate I: 3) – Gürün, 19 males. – This species was found in the eastern montane parts of Turkey, its appearance in Gürün is a surprising fact. The taxonomic relegation of the genus is dubious: it is not impossible that the species *Heptapotamia eustratii* ALPHERAKY, 1882 is congeneric with *lutea* and the relationships between *eustratii* (Kuldja), *„Dasypolia" mitis* PÜNGELER, 1906 (Askhabad) and *lutea* (Turkey) are also not clear; a revision of the mentioned taxa is needed.

Leucochlaena muscosa (STAUDINGER, 1892) – Tuz Gölü, a large series

Ulochlaena hirta (HÜBNER, [1809-1813]) – Çamlidere, Tuz Gölü, Pinarbashi, Osmandede, Gürün, Dutözü Köyü

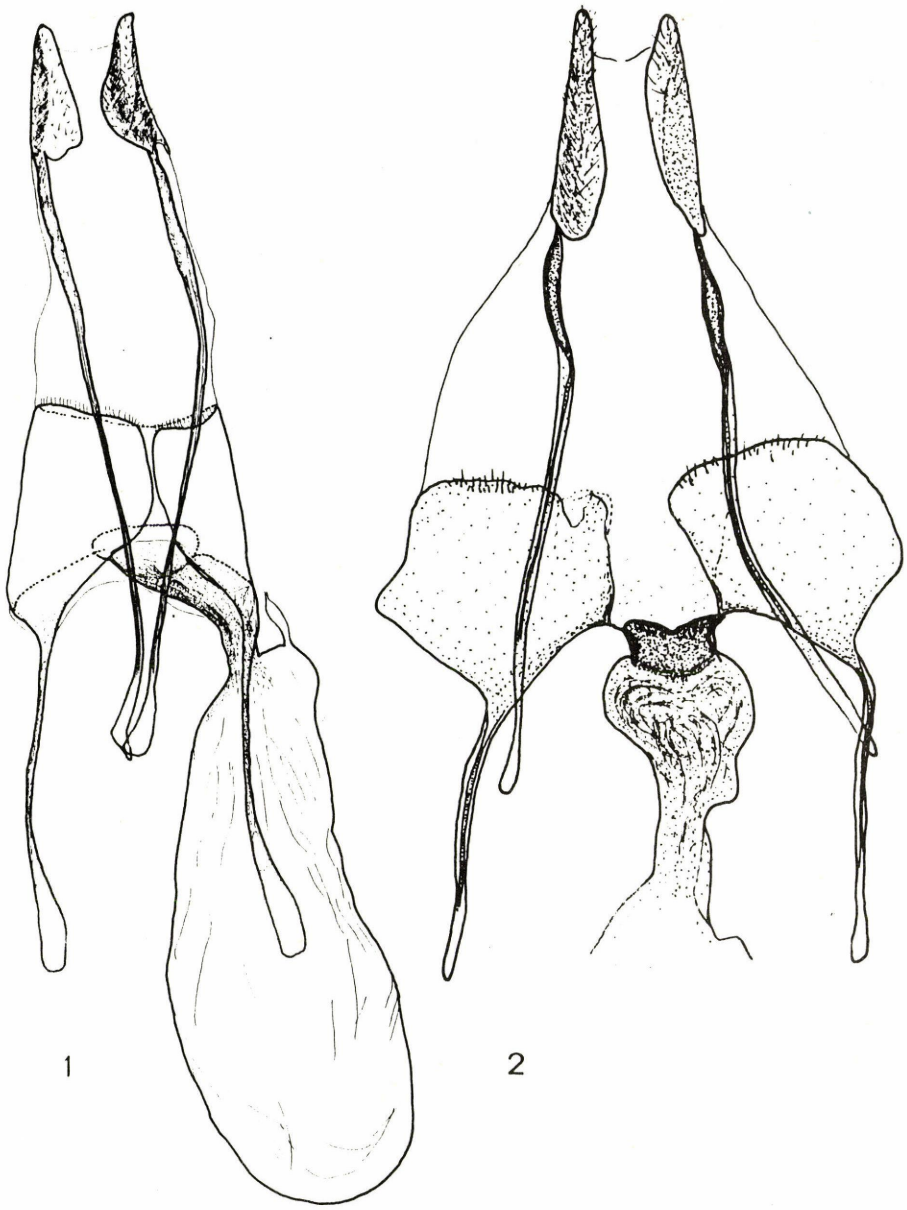
Dasypolia templi armeniaca RONKAY et VARGA, 1985 – Çamlidere, a single male

Polymixis (Polymixis) paravarga RONKAY, sp. n. – Tuz Gölü, 32 males. – The description of the new species is given given in the end of the systematic part.

Polymixis (Polymixis) bischoffi (HERRICH-SCHÄFFER, [1850]) – Çamlidere

Polymixis (Myxinia) rufocincta (HÜBNER-GEYER, [1827-1828])– Gürün, Dutözü Köyü

Polymixis (Myxinia) chrysographa (WAGNER, 1931) – Gürün, two males



Figs 1-2. — 1 = *Oxytrypia stephania* SUTTON. Turkey, Gürün. – 2 = *Oxytrypia orbiculosa* ESPER. Hungary

Aporophila australis (BOISDUVAL, 1829) – Çamlidere, Tuz Gölü, Dutözü Köyü
Blepharita (s.l.) leuconota (HERRICH-SCHÄFFER, [1850]) – Çamlidere, two males; Gürün, a short series
Scotochrosta pulla caerulescens (SCHWINGENSCHUSS, 1938) – Dutözü Köyü, 4 males, two females
Allophyes metaxys BOURSIN, 1953 – Osmandede, a single female; Gürün, a large series. – This interesting species is known from the Taurus range. It has an allopatric distribution with the related and sometimes very similar *A. asiatica* (STAUDINGER, 1892).
Allophyes asiatica (STAUDINGER, 1892) – Çamlidere, Dutözü Köyü, more than one hundred specimens
Dichonia aeruginea (HÜBNER, [1803-1808]) – Çamlidere, Pinarbashi, Dutözü Köyü
Dichonia pinkeri (KOBES, 1973) – Çamlidere, two males; Dutözü Köyü, two males
Dryobotodes eremita (FABRICIUS, 1775) – Çamlidere, Pinarbashi, Dutözü Köyü
Dryobotodes carbonis (WAGNER, 1931) – Çamlidere, Dutözü Köyü
Antitype jonis (LEDERER, 1865) – Çamlidere, Pinarbashi, Gürün, Dutözü Köyü
Ammoconia caecimacula ([DENIS et SCHIFFERMÜLLER], 1775) – Çamlidere
Ammoconia senex victoris RONKAY et VARGA, 1984 – Çamlidere, Tuz Gölü, Pinarbashi, Gürün, Dutözü Köyü
Conistra vaccinii (LINNAEUS, 1761) – Çamlidere
Conistra asiatica PINKER, 1980 – Gürün, one male. – A recently discovered species. The colouration of the specimen collected in Gürün is much lighter than that of the typical ones.
Agrochola (Agrochola) lychnidis ([DENIS et SCHIFFERMÜLLER], 1775) – Çamlidere
Agrochola (Alpichola) egorovi laciniatae WILTSHIRE, 1958 – Gürün, 6 male specimens
Agrochola (Anchoscelis) luteogrisea (WARREN, 1911) – Çamlidere, Dutözü Köyü
Agrochola (Anchoscelis) humilis anatolica PINKER, 1980 – Çamlidere, Dotözü Köyü.
Agrochola (Anchoscelis) deleta (STAUDINGER, 1881) – Çamlidere, Dutözü Köyü
Agrochola (Anchoscelis) rupicapra (STAUDINGER, 1878) – Pinarbashi, Gürün, Dutözü Köyü
Agrochola (Anchoscelis) kindermanni (FISCHER VON RÖSLERSTAMM, 1834) – Dutözü Köyü
Agrochola (Anchoscelis) helvola pallescens (WARREN, 1911) – Çamlidere, Pinarbashi, Dutözü Köyü
Agrochola (Leptologia) macilenta (HÜBNER, [1808]) – Çamlidere, Dutözü Köyü
Agrochola (Propenistra) laevis (HÜBNER, [1803-1808]) – Çamlidere
Atethmia centrago pallida (STAUDINGER, 1892) – Çamlidere, one female
Xanthia ocellaris (BORKHAUSEN, 1789) ssp. – Gürün, Dutözü Köyü
Diloba caeruleocephala armena STAUDINGER, 1881 – Çamlidere, Dutözü Köyü

Acronictinae

Cryphia receptricula (HÜBNER, [1803-1808]) – Dutözü Köyü, one male
Victrix karsiana lithoxys RONKAY et VARGA, in press – Çamlidere, one male; Dutözü Köyü, two males

Amphipyrinae

Phlogophora meticulosa (LINNAEUS, 1758) – Tuz Gölü, Pinarbashi, Gürün
Margelana flavidior WAGNER, 1931 – Osmandede, two females; Gürün, a long series
Luperina diversa (STAUDINGER, 1892) – Çamlidere, Tuz Gölü, Gürün, Dutözü Köyü
Luperina sp. – Çamlidere, one female. – This species is closely related to *L. rjabovi* (KLYUCHKO, 1967) but differs from the latter taxon by some genital features. The taxonomic problems of this species group will be discussed by HACKER et al. (pers. comm.).
Gortyna cervago EVERSMANN, 1844 – Çamlidere, two males
Rhizedra lutosa (HÜBNER, [1803-1808]) – Tuz Gölü, one female
Hoplodrina ambigua ([DENIS et SCHIFFERMÜLLER], 1775) – Çamlidere, Tuz Gölü, Gürün, Dutözü Köyü
Caradrina clavipalpis (SCOPOLI, 1763) – Çamlidere, Tuz Gölü, Gürün, Dutözü Köyü
Caradrina flavirena (GUENÈE, 1852) – Dutözü Köyü, a single female

Acontiinae

Odice arcuinna (HÜBNER, 1790) – Gürün

Plusiinae

Chrysodeixis chalcites (ESPER, 1789) – Tuz Gölü, Dutözü Köyü

Catocalinae

Catocala fraxini (LINNAEUS, 1758) – Dutözü Köyü, one male
Catocala elocata (ESPER, 1786) – Pinarbashi, Gürün

Ophiderinae

Lygephila craccae ([DENIS et SCHIFFERMÜLLER], 1775) – Dutözü Köyü
Thria robusta (WALKER, 1858) – Gürün, two female specimens

DESCRIPTION OF THE NEW SPECIES

Polymixis paravarga RONKAY, sp. n.
(Plate I: 1-2, Figs 3-5)

Holotype – male, „Turkey, Prov. Ankara, Tuz Gölü, 1000 m, 9 km N Sereflikochisar, 33°32'E, 38°58'N, 9.X.1988", „leg. FÁBIÁN, HERCZIG, RONKAY et SZABÓKY", deposited in the collection of the Hungarian Natural History Museum, Budapest.

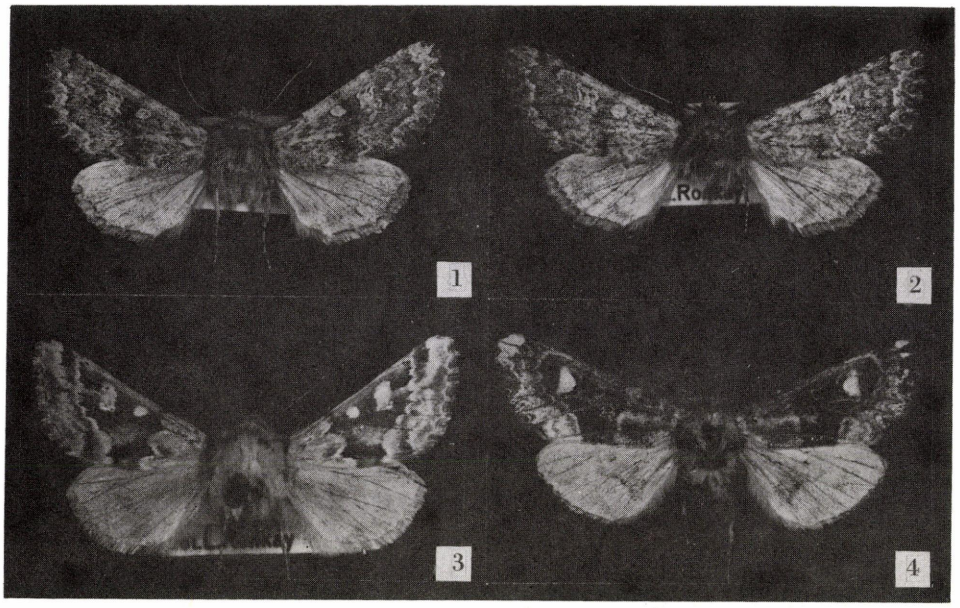
Paratypes – 6 males from the same locality and data, in colls. of HNHM and the collectors; 25 males and 3 females from the same locality, 16-17. and 21. X. 1989, leg. et coll. GYULAI, HREBLAY et G. RONKAY. Slides Nos 2860, 2871 RONKAY.

Description – Alar expanse 36-37 mm, length of fore wing 16-17 mm. Head and thorax khaki-brown, tegulae with somewhat darker brownish margins, palpi laterally dark grey, antennae strongly bipectinate. Abdomen a bit lighter, edges of segments darker, dorsal crest consists of greyish tufts. Fore wing elongate, apex acute. Ground colour of fore wing khaki-brown with ochreous and greyish irroration. Transversal lines strongly waved, double, brownish, filled with ochreous; medial stripe a darker, diffuser shadow. Medial area more or less suffused with greyish-brown. Orbicular spot round, ochreous, defined with brownish and whitish spots; claviform spot obsolete, slightly lighter than ground colour and partly defined with brown. Subterminal line conspicuous, wavy, ochreous with brownish inner shadow. Terminal line a row of blackish spots, cilia long, brownish, spotted with ochreous and darker brown. Hind wing light, shiny ochreous-whitish. Cellular lunule and transversal line pale but present, veins usually covered with dark scales, marginal area slightly suffused with grey-brown. Cilia bright yellowish, its terminal line strong, blackish. Underside of wings whitish-ochreous, inner area of fore wing strongly suffused with greyish. Orbicular and reniform spots light, latter with a blackish centre. Shadows of postmedial and subterminal lines well-visible, diffuse stripes, cilia as on upper side. Hind wing scarcely irrorated with brown, cellular lunule and transversal line dark brown.

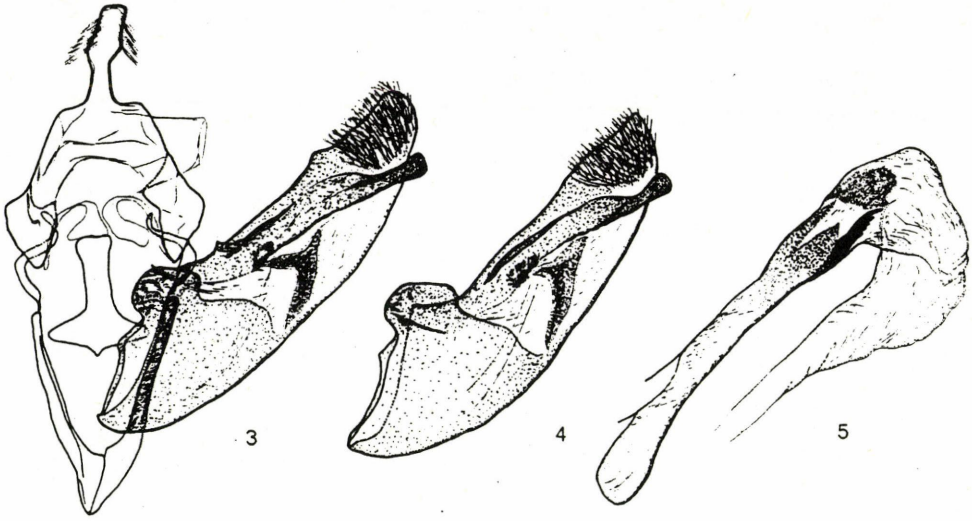
Male genitalia (Figs 3-5) – Uncus short, spatulate, tegumen wide. Fultura inferior deltoidal with long dorsal handle, vinculum strong, V-shaped. Valvae elongate, apical part slightly tapering. Clavus large and broad, mushroom-shaped with partly rugulose surface. Costa with a sclerotized crest running parallel with margin, distally continuing in a long and strong, apically rounded processus. Harpe flattened, arcuate, less-defined, pulvillus long, ampulla globular, minute. Cucullus densely covered with hairpencils. Aedeagus elongate, proximally slightly curved. Carina intensively granulate, with a large, saw-like processus ventrally. Vesica without cornuti, everted forward and reclinate ventrally, with a finely sclerotized plate on dorsal surface.

Specific differences and taxonomic position – The new species is closely related to *paradisiaca* (BOURSIN, 1943) and resembles externally also *P. varga* HACKER, 1987 (the species name is derived from the combination of the latter two taxa). *Paravarga* differs from *paradisiaca* by its significantly smaller size, more unicolourous fore wing and less defines antemedial and postmedial lines; on the contrary, the subterminal line of *paravarga* is more conspicuous than that of *paradisiaca*. The main distinctive feature in the male genitalia is the presence of a large, pointed costal extension of *paradisiaca* – see the photo and the original description of BOURSIN; the figure in HACKER & WEIGERT, 1986 – which is reduced to a slender crest in case of *paravarga*. (This appendage was incorrectly mentioned by BOURSIN as „harpe"). The aedeagus of *paradisiaca* has a stronger curve than that of *paravarga*.

Plate I.



1-2. *Polymixis paravarga* sp. n. Paratype, Turkey, Tuz Gölü. – 3. *Guselderia lutea* HACKER, KUHNA et GROSS, 1986. Turkey, Gürün. – 4. *Oxytrypia stephania* SUTTON, 1964. Female, Turkey, Gürün.



Figs 3-5. *Polymixis paravarga* sp. n. Paratypes, Turkey, Tuz Gölü

The second similar species, *varga* resembles to *paravarga* only superficially, and, by the characteristics of the male genitalia (see HACKER, 1987), it showes stronger connections to the species of the genus *Dasypolia*.

The *paradisiaca-paravarga* species pair shows some common characteristics with the *P. bischoffi* (HERRICH-SCHÄFFER, 1850) – *culoti* (SCHAWERDA, 1920) pair of species, too. These features – the large, rugulose clavus, the flattened, arcuate harpe, the presence of a costal appendage or protuberance (appearing in very different forms), the same groundplan of the aedeagus and the vesica – indicate the closer relationship of these two, externally very different groups of the genus.

Distribution – The new species is known only from the type locality (C Turkey, the vicinity of the Lake Tuz Gölü), and, according to the present data, it has an allopatric distribution with *paradisiaca* (Armenia, NE Turkey).

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